Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

We are here furnished with another illustration, among many seen on every side around us, of unmistakable evidences of perfected thought in their creation, each being peculiarly adapted to the position it holds in the divine economy.

I am indebted to Dr. Ida A. Keller for the accompanying drawings and explanation of figures.

MICKLETON, N. J., 1894.

Explanation of Plate 231.

I. Diagram of vine of *Nelumbo lutea* Pers.
  St, St.—main stem 47 feet long.
  X—unknown dist. to tubers with living buds—T.
  X′— " " old tuber shells—O. T.
II. End of stem ¼ of natural size.
  St.—unthickened stem.
  St′—two tubers terminating the stem.
  Sh.—remaining portions of sheaths (black).
  B—terminal bud which will develop into a stem.
  B′.—axillary bud (sheath which covered it removed).
  L. B′.—leaf bud, subtending terminal bud. It has a sheath of its own, which has not been removed, is distinct from the sheath marked Sh. The former is not black, the latter is.
  L. B′.—leaf bud, upper portion exposed by removal of sheath.
  R—points from which roots will emerge, these arranged in groups as indicated in the drawing.
  R′—dead roots showing their articulations.
  P—petiole of the last leaf of the season (now dead).
III.—Cross section of vine, natural size.
  A—air passage.
IV. Cross section of tuber, natural size (shows the flattening).
V. " " involute leaf bud enlarged.
  A—air passage.
VI. Starch grains. The largest represented (′) being .0492×.0328 mm.

On the Carpels of Opulaster malvacea (Greene).

This species was originally described by Prof. Greene in Pitt. **2**: 30, 1889, as *Neillia malvacea*, from specimens collected by the author himself at the north shore of Lake Pend d'Oreille, in Idaho. In the diagnosis of the species it is referred to a section of the genus characterized by indehiscent carpels.

Recently I had occasion to investigate the fruit characters of this *Opulaster* and find that the carpels do rupture along well-defined sutures, although it takes place tardily. The fruit of the species is usually 2-carpellary, very rarely 3-carpellary. Each carpel is from 1–3-ovuled, developing as many or fewer seeds; the usual number is 1 or 2. At maturity the carpel is nearly triangular, much flattened, not at all inflated, and when well developed it measures about 4.5 mm. in length, and 3.5 mm. in width across the broadest portion. The seeds are oblong, somewhat compressed, nearly 2 mm. long and 1.3 mm. wide, grayish in color, with a firm polished testa and extremely bitter taste. The two carpels seen together bear a great deal of resemblance to the silicle of a *Lepidium* as Prof. Greene notes.

The carpels are connate except at the divergent apices. They usually separate along a lateral line at maturity. Occasionally this line of demarcation does not form and they remain united. The pedicels commonly fall away from the axis of inflorescence in autumn or early winter by the development of a constriction at their bases, carrying the unopened fruit with them. The dehiscence of the carpels does not usually occur until after they reach the ground, but if the pedicels are not detached from the axis of the corymb in the fall, which sometimes happens, the carpels will rupture in the spring while retaining their original position and enfolded by the persistent calyx.

The dehiscence of the carpels takes place along two sutures, a ventral and a dorsal. In the majority of the cases that have come under my observation the inner or ventral suture opens first, the fissure beginning near the apex or at the point of juncture of the carpels, and is complete from base to summit. The outer or dorsal suture opens immediately after the rupture of the inner, but the line of dehiscence extends across the top of the carpel only. Owing to this circumstance the carpel is never two-valved in dehisence, apparently a new character in our North American *Opulasters*, and therefore, clearly, to be considered as follicular. When the carpels are so firmly united that no lateral separation between them takes place the inner suture opens through both simultaneously.

JOHN B. LEIBERG.

HOPE, IDAHO, March 9th, 1895.